Erasmus+ - Key Action 2

Capacity Building within the Field of Higher Education

TIGRIS Project

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University research project management and talent development

Work package	Title
WP3	***Development - Formulation of Strategies***
Activity	Title
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Work Package 3, 'Development', refers the formulation of strategies. This part entails the development of a set of recommendations for university research project management and talent development.

We will split this set of recommendations in two parts, one for project management and one for talent development because of pragmatic reasons. One can argue that the two are interlinked, and indeed they are, but for reasons of clarity the two will be dealt with separately. However, it will be clear that measures taken in for example talent development can have a direct influence on research project management.

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1 University research project management

Research project management can be understood as a methodological question. Study design might be a synonym in that approach. Study design entails formulating the correct research question, the correct hypothesis, research methods (lab work, questionnaire development, statistical tests, …), the writing of research reports etc. Study design is not a part of this set of recommendations, since it is impossible to deliver a set of recommendations on all branches of science. We also assume this knowledge to be present in the research institutions in Kurdistan Region of Iraq.

We would like to focus on the institutional aspects of research project management. Referring to the project proposal, we would like to focus on what institutions can do to allow their researchers to 'participate in large-scale international collaborations'. We are aware of the financial constraints in the region, but we will not limit ourselves to recommendations that have no financial impact. Some recommendations can be either taken up by a group of universities, or by the Ministry of Higher Education and Scientific Research. The recommendations are inspired by various sources:

- previous work in the TIGRIS-project, such as the self-assessment reports from Work Package 1, which were based on the IMPI-tool,
- practices in universities in Western Europe,
- texts coming from networks such as the *Research Information Network*, *the National Council of University Research Administrations*, the *European Association of Research Managers and Administrations* and *the League of European Research Universities*.

We would like to draw the attention of the reader on the publications that are available for free online, especially those of the League of European Research Universities, but also on others. Information about research in general, but also about several aspects of research (the role of a research university in society, research and gender, research in Social Sciences and Humanities, …) are freely available. A list of relevant sources can be found in section 1.8.

> *"The message is clear. If you want to deliver on growth and jobs, invest in research and universities! If you want a budget focused on results, invest in research and universities! We all need to speak up for research."* Kurt Deketelaere, Secretary-General LERU

Research does not happen in a vacuum, researchers are part of a research group, a university and subject to all kinds or regulations, they need a favorable work climate that offers the best chances within their level and domain (KU Leuven Research Policy text). It is clear that also the external environment (outside the university) has a high impact on research environments. The significance of external policy actions at the system level and in the framework of environments for the research process cannot be stressed enough (E. Kalpazidou, 2018). To achieve this, several issues are important:

1.1   Researchers need access to scientific publications in their domain

Several self-assessments by the Kurdish universities made clear that there is no access to scientific journals, or only to google scholar. While understanding that subscriptions to leading scientific journals is expensive, and knowing that also universities in Western Europe have difficulties in finding budget for these subscriptions[1], it is critical that Kurdish universities gain access to international scientific publications. This can be done, for example, by pooling resources from several institutions and government into a common library. Another development to keep a close eye on, is the open access development, whereby scientific publications are freely available. For example, Elsevier has a list of Open Access Journals on its website.[2]

1.2   Researchers need budgets, and budgets should create more budgets

Except for self-supporting PhD-students, researchers need budgets, for their income, for hiring staff, for equipment etc. Relating to the first, it is clear that there is a desperate need for an increase in R&D investments in Kurdistan. In the general introduction of the self-assessment reports, we made clear that the cost of violence in the region is high, leaving little budget for other initiatives, such as investments in research and education. Attracting money from other sources requires knowledge of what is available at governmental level, international level or perhaps via companies. It also requires knowledge of procedures, requirements, documents etc. Several universities, including KU Leuven, have a specific department to deal with these questions.[3] It is however possible to gain this knowledge also on a higher level, in an institutions that serves several universities at the same time. This service can alert researchers to new and forthcoming grant opportunities from a range of funding bodies (for example companies, the EU, a national programme,…), help in application, advise on channels through which to publish their academic work, ...[4] This might be an investment to begin with, but if done well, it will render more income.

1.3   Researchers need support

In line with the previous topic, it is clear that researchers need support. They need support when generating and developing new ideas and projects, in writing research proposals, they need support in seeking, securing and managing funding, during the actual research itself and in disseminating and publishing their findings (Research Information Network). A support unit should be established at university level, or in case there is enough trust among universities, this unit can be pooled.

When developing new ideas, researchers need sources of inspiration, this can come from previous work, contacts with colleagues or through reading. Universities need to provide their researchers with an inspiring environment. This can be done by providing libraries, by training researchers with skills to find the correct publication, and the necessary IT-skills, either within one university or shared between several.

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[1] See for example: 'Harvard University says it can't afford journal publishers' prices', https://www.theguardian.com/science/2012/apr/24/harvard-university-journal-publishers-prices
[2] https://www.elsevier.com/about/open-science/open-access/open-access-journals
[3] https://www.kuleuven.be/english/research/support
[4] Research Information Network, *Research Support Services in UK Universities*, 2010, p. 6.

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1.4 Research groups need organization

On a lower level, on the level of the research groups (here defined as the group of colleagues that works together closely on a particular subject, for example the research group 'social security law'), the internal organization needs to be defined: a research strategy is needed, the work satisfaction and motivation need to be monitored and the PhD Researchers need good supervision. (KU Leuven Research Policy). It is here were the individual, and its competences, come into play (see second part).

Researchers making explicit plans with their advisors on the outset of their appointment were more productive and satisfied with their experience than those that had not.[5]

1.5 Think about your impact

Researchers need to be able to define their impact, not only in academic terms, but also to the outside world. Universities are no longer ivory towers, only monitoring and analyzing reality. Universities have an impact on their environment, but are also heavily dependent on that environment, for funding, infrastructure, safety, etc. Universities also have the need for autonomy, in various degrees and in various matters, but they should at least demonstrate their added value for the community. Several practices can be found inspiring. They can be done at the local level, or as a joint effort:

- Awards for research that is particularly relevant for the public debate[6]
- Display your impact on society on your website[7]
- Think about the number of people you employ and educate, the number of people you bring to your country etc.[8]
- Encourage researchers to think about what the societal impact of their research can be, persuade them to communicate and disseminate their findings[9]

1.6 Ethics

A research environment can only carry that name if it is an ethical environment. Any unethical behaviour – even not directly linked to research – has a pernicious effect on the quality of research. According to ALLEA (All European Academies[10]), the four principles of research integrity are:

- Reliability: in ensuring the quality of research, reflected in design, methodology, analyses and the use of resources
- Honesty: in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way.

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[5] https://www.slideshare.net/emmagillaspy/creating-a-thriving-research-environment
[6] https://ghum.kuleuven.be/EN2018/documents/call-for-maatschappijprijs-and-pioniersprijs-2020 and https://www.rug.nl/let/letterenfestival/impact-prize
[7] https://www.ucl.ac.uk/grand-challenges/
[8] https://www.leru.org/news/the-economic-contribution-of-leru-universities-2016 and https://www.leru.org/impact
[9] https://www.ascb.org/science-policy-public-outreach/science-outreach/communication-toolkits/best-practices-in-effective-science-communication/ for tips about science communication
[10] http://www.allea.org/wp-content/uploads/2017/03/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017-1.pdf

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- Respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment
- Accountability: for the research from idea to publication, for its management and organisation, for training, supervision and mentoring and for its wider impacts.

It is advisable that every institution has a written ethical code (it can be a common one), that describes that researchers must carry out their research in a rigorous manner and that they must faithfully publish the relevant information by describing the methods and the results in such a way that they can be verified. The code can contain – among others - the following aspects[11]:

- Rigour: the researchers' work should apply the generally acknowledges rules of the discipline with precision
- Caution: the researcher does not impose unnecessary or disproportionate risks
- Reliability: researchers act in such a way that third parties can trust them to proceed in a professional manner, both in their scientific work and in their manner of reporting on it.
- Verifiability: researchers' work can be reproduced
- Independence: in research activities, researchers are guided by rules of scientific nature
- Impartiality: researchers are not influenced by their preferences, sympathies, interests or personal prejudices in the execution of their scientific work

It would be wise to also include other topics, such as:

- How to work with laboratory animals?
- What with dual-use research (can be beneficial for civilian purposes, but also for military/policing purposes)?
- Authorship

1.7   A safe working environment

Safe working environments are important. Physical, psychological or any other harm a researchers undergoes, influences his work in a negative way and exposes the university to all kinds of (legal) problems. Researchers have the right to work in a safe working environment. Safety refers not only to the absence of a risk for physical harm, but it includes also a safe mental place.

Universities should be aware of the risks that can be part of academic work, for example in laboratories, when working with laboratory animals, when working in university hospitals, etc. Universities should equally be aware of the risks that come when people work together. Cooperative working bares the risk of (verbal) abuse, bullying, (sexual) harassment, jealousy, backstabbing etc. Both risks are equally important and should be addressed in a coherent policy. The presence of an ombudsperson is vital, as is the presence of evacuation procedures.

Isolation is also a risk that should be avoided, as it impacts on the ability to perform effectively and on research productivity. [12]

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[11] http://www.belspo.be/belspo/organisation/publ/pub_ostc/Eth_code/ethcode_en.pdf
[12] https://www.slideshare.net/emmagillaspy/creating-a-thriving-research-environment

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1.8 Interesting texts, documents and policy papers

As mentioned before, several documents can be found online.

- A list of open access journals can be found here: https://www.elsevier.com/about/open-science/open-access/open-access-journals.
- The KU Leuven research policy text can be found here: https://www.kuleuven.be/english/research/policy
- A slide show concerning the creation of a thriving research environment can be found here: https://www.slideshare.net/emmagillaspy/creating-a-thriving-research-environment
- The Research Information Network report on the Research Support Services in UK Universities can be found here: http://ciber-research.eu/download/20101116-RSS-report.pdf
- Reports by LERU on Academic Impact
    - Economic Contribution of the LERU Universities: https://www.leru.org/files/The-Economic-Contribution-of-the-LERU-Universities-2016-Full-paper.pdf
    - On Impact: https://www.leru.org/impact
- A description off the Grand Challenges at UC London: https://www.ucl.ac.uk/grand-challenges/
- A description off best practices in Science Communication: https://www.ascb.org/science-policy-public-outreach/science-outreach/communication-toolkits/best-practices-in-effective-science-communication/
- The European Code of Conduct for Research Integrity: http://www.allea.org/wp-content/uploads/2017/03/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017-1.pdf
- The European Charter for Researchers and Code of Conduct for their Recruitment, https://euraxess.ec.europa.eu/sites/default/files/am509774cee_en_e4.pdf The additional Belgian Code of Ethics for Scientific Research in Belgium: http://www.belspo.be/belspo/organisation/publ/pub_ostc/Eth_code/ethcode_en.pdf

The reference of the article by Kalpazidou is: Kalpazidou, E. (2018). Persistent factors facilitating excellence in research environments. *Higher Education*, 75(2), 341-363.

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2 Talent Development

No matter how good the research environment is, the researchers remain the most important tool. To make sure researchers can make use of their talents in the best way, we need to be aware of their needs concerning training and skills development.

Some findings about researchers and planning[13]:

- Researchers making explicit plans with their advisors on the outset of their appointment were more productive and satisfied with their experience than those that had not.
- Those who do not actively plan their career tend to be less engaged in and take less advantage of opportunities on offer.
- Researchers are provided with information and advice about different careers within and outside academia.

In this part, we will not discuss Talent Development in terms of 'academic skills'. We assume that researchers, including PhD students, are capable in terms of research. Skills such as writing 'Academic English' or 'abstract writing' are off course important.

However, in this part we will discuss other skills, such as 'personal effectiveness', 'communication and collaboration', 'career development' and 'leadership and management'. Most of these skills can be called 'transferable skills' and are not only beneficial in an academic context, but in almost every professional environment.

2.1 Personal effectiveness

Personal effectiveness includes skills such as time and project management, creative problem solving, networking and resilience against stress. Communication and collaboration includes skills such as language skills, interpersonal skills (active listening, assertive communication, feedback, …) presentation skills, poster development etc. Career development is a way of planning ones' career, by thinking about who you are as a person, and what kind of jobs can be good for you, preparing for job interviews, cv-writing etc. Leadership and management involves coaching skills, meeting skills, supervision skills etc.

The complete course of talent development trainings of KU Leuven can be found here: https://admin.kuleuven.be/personeel/data/brochure-opleidingen-onderzoekers.

Another interesting webpage can be found here: http://ggnb-blog.uni-goettingen.de/?p=793, where you can find links to a tool that helps to plan you Individual Development (myIDP) and an online presentation about the many careers that PhDs created.

2.2 Graduate SPIRIT

The Erasmus+ -project Graduate SPIRIT listed almost hundred practices for Doctoral Training that are linked to interdisciplinary, intersectoral or international aspects of Doctoral Training. The complete list can be found on the website. Also here, it is advised to test these practices first, and see whether or not they are suitable in your university. For example, some practices can be hindered by for example legal issues, or by non-acceptance by the target audience. They serve as a source of

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[13] https://www.slideshare.net/emmagillaspy/creating-a-thriving-research-environment

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inspiration, not as a guideline. The list can be found on the website of the project: www.gradspirit.eu.

2.3 ICARD

Another Erasmus+ -project, called ICARD, translated the findings of Australian research concerning career development by the University of Queensland to the European context. The project developed a website where twenty modules can be found that help to build ones career path. The modules range from self-understanding to topics like CV building, work ethics, and entrepreneurship. Using the modules is completely free. The website can be found here: http://www.career-modules.eu/.

2.4 Policy texts

Other relevant texts are "Principles for Innovative Doctoral Training"[14], "Good Practice Elements in Doctoral Training"[15] and "Erasmus Mundus Handbook of Excellence – Doctoral Programmes".[16]

These, texts, coming from different sources, such as the European Commission, the League of European Research Universities and by researchers, can be considered as texts that form the basis for all who are involved in Doctoral Training. They cover issues such as 'Triple-I'-training[17], recruiting, wellbeing, research excellence etc.

2.5 Work together

It would be wise not to develop training programmes for every university separate. The number of interested students, the presence of expertise, the budget etc. can hinder an efficient training programme. Instead, universities should identify the most urgent needs and pool their resources to organize a two-week intensive training programme, based on the expertise that is present in the region, and open for their researchers.

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[14] https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf
[15] https://www.leru.org/files/Good-Practice-Elements-in-Doctoral-Training-Full-paper.pdf
[16] https://eacea.ec.europa.eu/sites/eacea-site/files/handbook_of_excellence_2012_doctoral_en.pdf
[17] Internationalisation, Interdisciplinarity and Intersectorality.

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